

October 1995

Clinical Center News

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Developer will oversee construction of new CC

Plans for building and financing the Clinical Center's new 250-bed inpatient addition are as innovative and forward thinking as the medicine that will be practiced there.

The new hospital and laboratory module, slated for the grassy area between the clinics and the serpentine walk on Center Drive, carries a \$380 million price tag. If all goes as planned, construction on the building—all 850,000 gross square feet of it—could begin in 1997.

"How to handle a project this large in an organization that is downsizing and facing budget reductions has been a real dilemma for us," admits George Williams, assistant director of the special projects branch, NIH Division of Engineering Services (DES) and acting deputy director of the division.

"What we came up with was the concept of using a developer (see related story on page five) to handle the project," he explains. "Typically the government acts as owner and developer for a project, contracting for design and construction. The government holds all the contracts, and this is something the government does not do very effectively."

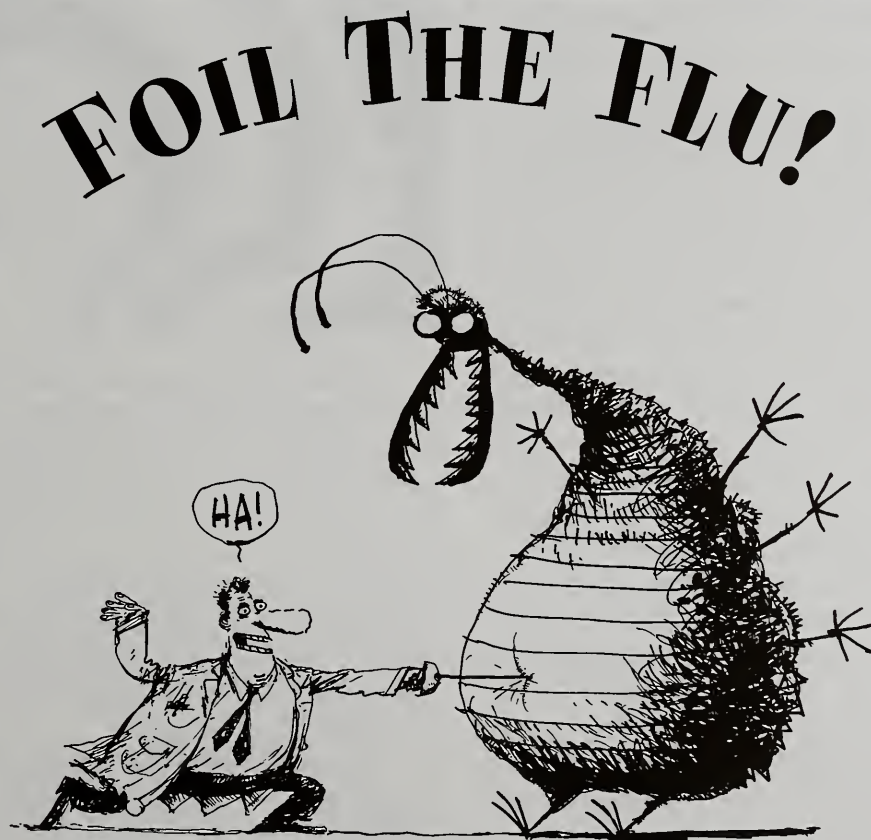
Why not turn over the development duties to a private company with the expertise and incentive to do it instead? NIH tells the developer what's needed and assigns all aspects of design, construction, and project management to the experts.

Topping the developer's to-do list is devising a business plan, which details how the project will be carried out, sources of funding, and what type of governmental and Congressional approvals are needed.

The developer will also manage a design competition expected to begin this month. "NIH announced an

international solicitation for designers in June and had tremendous response. Six designers have been selected to submit design concepts." They are Cesar Pelli Associates, Inc., New Haven, Conn.; Kallmann McKinnell & Wood Architects, Boston; Kohn Pedersen

Continued on page five



Get this year's flu shot.

Turn to page 6 for details

From the director

Cleanup campaign success depends on everyone

by Dr. John I. Gallin
CC director

The Clinical Center begins its first building-wide cleanup campaign this month. The campaign offers us all an opportunity to focus effort and attention on creating and maintaining a cleaner, neater building. I am counting on your support and participation to make this campaign a success.

The campaign will include periodic information bulletins that will outline ways CC staff can work with the Housekeeping and Fabric Care Department to meet the campaign's goals. For example, the department is developing a more efficient system for reporting areas of

the building that need immediate attention. They will offer "swat teams" to help with special cleanup projects offices and departments may wish to undertake. They will also make available cleaning supplies and extra trash removal.

The success of this campaign depends on you. Each of us must set an example.

That means not littering inside or outside the building. It means taking the initiative to pick up trash we see in hallways. It means keeping personal work areas neat. And it means working together to create and maintain the high quality environment that Clinical Center patients and staff deserve. Thanks for your help.

Fall lectures spotlight what's new

Lectures on AIDS, melanoma, sickle cell anemia, infertility, drug-resistant bacteria, and depression are on tap for the CC's 19th annual Medicine for the Public lecture series.

The lectures, which are free and open to the public, are held at 7 p.m. on Tuesdays in Masur Auditorium beginning in October. They are:

•**AIDS: Can We Boost the Immune System?**, October 10, Dr. Joseph Kovacs, CC Critical Care Medicine Department. Dr. Kovacs is conducting, with NIAID colleagues, innovative clinical studies that focus on strengthening the body's immune system as a method of treating people infected with HIV.

•**Melanoma and the Suntan Generation**, October 17, Dr. Stephen Katz, NIAMS director and chief of the NCI dermatology branch. Dr. Katz will explain what exposure to the sun—the leading cause of melanoma in the U.S.—does to the skin, including how melanoma is diagnosed, the importance of early detection, and research currently under way.



•**Sickle Cell Anemia: New Treatments and the Search for a Cure**, Oct. 24, Dr. Griffin Rodgers, chief of the molecular hematology section, NIDDK. Sickle cell anemia is a painful, inherited blood disorder. New technologies such as gene therapy hold promise as an eventual cure and innovative drug therapies are proving effective in alleviating the disease's symptoms.

•**Understanding Infertility and the Ovary**, Oct. 31, Dr. Lawrence Nelson, section on gynecological

research, NICHD. One couple in 10 experiences infertility. Dr. Nelson will discuss the ovary's role in infertility, what can be done to correct dysfunction, and current research efforts to better understand and treat infertility.

•**Drug-Resistant Bacteria: Old Foes with New Faces**, Nov. 14, Dr. David Henderson, CC deputy director for clinical care. Hailed as a miracle drug after its introduction in the 1940s, penicillin changed the way medicine treated bacterial infections. Over the decades, however, bacteria have become resistant to the arsenal of antibiotics, paving the way for outbreaks of diseases once thought to be under control.

•**Depression**, Nov. 21, Dr. Philip Gold, neuroendocrinology branch chief, NIMH. A combination of new medications and therapy often can eliminate symptoms in many who suffer from this emotionally paralyzing condition.

For more information on the lecture series, call Clinical Center Communications at 496-2563.

Clinical Center
News

Editor: Sara Byars

Clinical Center News, Building 10, Room 1C255, National Institutes of Health, Bethesda, Maryland 20892. (301) 496-2563. Fax: 402-2984. Published monthly by the Office of Clinical Center Communications, Colleen Henrichsen, chief, for CC employees. News, article ideas, calendar events, letters, and photographs are welcome. Deadline for submissions is the second Monday of each month.

CFC campaign begins

The environment, international relief, and rehabilitation advocacy are just a few of the more than 2,500 categories of local and national agencies that benefit from the 1995 Combined Federal Campaign (CFC).

Theme for this year's campaign is "It's Up to You." It runs Oct. 9-Nov. 24. Al Rexroad and Alberta Bourn chair the CC's drive this year. Departmental representatives will soon be distributing CFC material. For more information on CFC, call Rexroad at 594-5596.

Classes offered

Call the education and training section, Office of Human Resources Management, at 496-1618 for details on these and other classes:

- Eudora, the software application that will standardize CC e-mail. Choose one of the sessions, which will be offered Nov. 2, 8, 16, and 30 and Dec. 7 and 13; 8:30-11:30 a.m., 11 a.m.-1 p.m., or 2-4 p.m., room 1N248.

- Writing Effective KSAs, Nov. 15, 9 a.m.-noon, 6100 Executive Blvd.; and

- Getting up to Speak, Nov. 29, 8:30 a.m.-4:30 p.m., 6100 Executive Blvd.

Adopters sought

The CC's Looks 'R Us committee still needs individuals, offices, and departments to "adopt" an elevator. It's part of an effort to improve the appearance of building elevators. For details, call Carol Dougherty at 496-4273.

Receipts accepted

Your Giant and Safeway grocery receipts mean books, computers software, and supplies for the Clinical Center's school.

They participate in the equipment-for-receipts exchange program offered locally. The school, located on the CC's 10th floor, is classroom for more than 300 students



OR nurses host

Ever wanted an up-close and personal look at the operating room? You'll have your chance Nov. 3, 10 a.m.-2 p.m. That's when the CC Surgical Services Department hosts Operating Room Nurses Day events.

Staff will offer guided tours of an operating room. Also featured will be a display of surgical equipment. Tours begin in the lobby outside the special events office, 1C174. Call Kimberley House at 496-5646 for details. (Illustration by Al Laoang.)

a year, all CC patients.

"We coordinate with their home schools," explains Helen Mays, program director, "so that they are caught up with school work."

Drop register receipts by the school on the 10th floor, or send them to room 10S235.

Pharmacy celebrates

Stop by the main lobby Oct. 22-28 for a look at the Pharmacy Department's display spotlighting

National Pharmacy Week. The display will feature informative drug and medical literature, free pill boxes, and medicine spoons. Staff pharmacists will be on hand to answer questions. The week's theme is "Communication is Good Medicine."

Nurses participate

Twenty-eight CC nurses participated in the National Black Nurses Association's 23rd national institute and conference held in Washington in August.

The conference theme was protecting and promoting the health of African-American women and children. CC staffers offered a video on nursing at the Clinical Center, participated in poster sessions, and, along with speakers from the National Center for Human Genome Research, led roundtable discussions. Topics included current research in childhood-onset schizophrenia, pediatric AIDS, and gene therapy.

Symposium set

Molecular Mechanisms of Disease is the topic for the first annual NIH Postdoctoral and Clinical Fellows Symposium set for Oct. 12 in Natcher Auditorium. Nationally recognized scientists from diverse biological disciplines will focus on the latest developments in molecular biology and how they contribute to understanding the etiology of major diseases.

The NIH Fellows Committee, which represents 2,000 fellows here, is sponsor. For details on the day's events, call the NIH Office of Education at 496-3887.

Concerts announced

The Manchester String Quartet, all members of the National Symphony Orchestra, returns to NIH for a seventh season. This month's concerts are set for Oct. 16 and 30, 12:30-1:30 p.m., in Masur Auditorium. For details, call Sharon Greenwell in the Visitor Information Center, 496-1776.

Researchers unravel medical mystery

She was a vivacious little girl, but baby sitters were afraid to touch her. With a massively swollen belly and neck glands the size of baseballs, it was hard for her to attend school with the other children.

She had kidney disease that resembled lupus and rashes that flared and subsided. Her immune system destroyed her red blood cells and platelets, and then sometimes, it didn't.

She was a mystery in medicine, until her doctors called the Clinical Center for help.

The CC works like no other hospital. With a unique combination of expertise, a physician's questions led to the collaborative discovery of Autoimmune Lymphoproliferative Syndrome (ALPS), a new genetic disease.

ALPS is the first disease clearly due to an abnormality in apoptosis, or programmed cell death. Scientists are learning increasingly that the body

possesses powerful mechanisms that help decide when certain cells are no longer needed.

The scheduled, or "programmed," death of these cells helps control many critical normal processes. This accumulation of unneeded lymphocytes due to abnormal apoptosis sets the stage for a number of autoimmune diseases—where the immune system attacks its own tissues—including rheumatoid arthritis, lupus, and several types of kidney disease.

NIAID's Drs. Stephen Straus and Michael Lenardo, NCHGR's Dr. Jennifer Puck, and other NIH researchers, studied five children with massive lymph node enlargement and increases in a rare subset of immune cells called double-negative T cells. The children's problems included skin rashes, anemia, bleeding, and kidney diseases. Blood tests indicated exorbitant numbers of T lymphocytes, disease-fighting cells, and no ability to destroy cells when they are no longer needed.

The collaborative research, including CC labs and those of NIAID, NCI, and NCHGR, began in 1990 with a physician's phone call to Dr. Straus. After studying the referred child's medical history, Dr. Straus approached Dr. Tom Fleisher of CC's immunology lab to perform specific blood tests. Dr. Fleisher, an expert in lymphocyte analysis, had never seen results like those of this first little girl.

"She had a massive expansion of cells that we normally have very few of," Dr. Fleisher explained. "Her lymphocyte profile was strikingly abnormal because she had a dramatic increase in double-negative T lymphocytes."

After the surprising blood tests, Dr. Elaine Jaffe's pathology lab performed similar immuno-histochemical analyses of lymph nodes from the child and verified Dr. Fleisher's results in the tissues as well. The disease continued to baffle the scientists.

"Chance favors the prepared mind," Dr. Straus noted. "So when a Michigan physician called to discuss a child with the same puzzling set of symptoms, I knew we had found another instance of this disease. Now, we had two children. And I could only assume there were more out there."

And he was right. Before long, there were 11 patients with a disease that in 1992 was unrecognized. The first child has been admitted almost 30 times in four years, and thanks to the CC, the visits have all been free to her family. Without the networking and the collaboration, CC doctors wouldn't know about these children and couldn't bring them to the labs.

One small discovery grows from a broad base of research—a rare disease provides clues to other diseases and leads to new science. About the time Dr. Straus and his colleagues were studying these children, scientists elsewhere were discovering a new lymphocyte protein called Fas. It and related proteins became the subject of international research.

Fas is a key element of the system that results in lymphocyte apoptosis. The whole field of apoptosis was exploding and further CC investigation would show that these children had defective Fas protein on their lymphocyte cells.

NIAID Drs. Warren Strober and Michael Sneller, recognized the overall clinical and immunologic similarities of the children to a special research breed of mice that have the same lymph node swelling and spleen enlargement as the children and a marked increase in the double negative T lymphocytes. It turns out that these mice have defective genes and can not make the Fas protein.

In 1994, Dr. Straus obtained test materials to determine if his patients had Fas protein defects as well. Dr. Lenardo, an immunologist and apoptosis expert, was enlisted to test the patients' cells for their ability to die when substances that can bind to Fas proteins are added to them in

NIH scientists working at the Clinical Center, through their search for a diagnosis for a single child's illness, have found the molecular basis for a previously unrecognized clinical problem.

tissue cultures. Dr. Puck brought her expertise in medical genetics to the search. Her lab was perfect for determining whether the patients had normal Fas genes.

"Researchers at the Clinical Center at NIH are predisposed to wanting to know the why of medicine not just the how of it. That's the beauty of the Clinical Center." Dr. Straus explained. "All I had to do was introduce my research colleagues to the children with ALPS. Then it was not an abstract concept any longer—the children's appearances and their clinical histories were too compelling to ignore."

Within a matter of weeks the research team knew they had the answer—a new autoimmune disease caused by a genetic flaw that prevents apoptosis, the natural suicide mechanism that removes damaged cells.

The team ran full tilt—they pulled the data and brought it all together. They got the patients back to the Clinical Center. They got the siblings and family members in for further testing. The Fas protein was not signaling the cells to die, the gene responsible for making it was mutated.

This gene, because it sits at the crux of an important cellular pathway, may be important not only to our understanding of other autoimmune diseases, but may have implications for cancer research. Dr. Albert Lin of the NCI has been studying the family of one of the ALPS children because there are several members with Hodgkin's disease. Could there be a connection?

NIH scientists working here, through their search for a diagnosis for a single child's illness, have found the molecular basis for a previously unrecognized clinical problem.

"The discovery of ALPS will provide answers to a number of other science questions," Dr. Straus said. "The things that will come together, what we will learn, will expand way beyond the question at hand. We haven't figured out the complete story yet, but we will. It's very exciting."

—by Laura Bradbard

... innovative plans announced

Continued from page one

Fox Associates, P.C., and Hansen Lind Meyer, Inc., New York; Renzo Piano Building Workshop, Genoa, Italy; Venturi, Scott Brown & Associates, Inc., in association with Payette Associates, Inc., Philadelphia; and Zimmer Gunsel Frasca Partnership, Portland, Ore. Selection could come as early as December.

The CC's renovate-or-replace debate has been going on for years, but the 42-year-old building's rapidly failing infrastructure has precipitated NIH action on two fronts. Plans for the new hospital address the need for modern inpatient and lab areas. The CC Essential Maintenance and Safety Program covers improvements in the existing building.

"In 1989 our maintenance people came to us and said we've

got a real problem with maintaining the ventilation, fans, and equipment," says Williams. A subsequent study of the building's maintenance needs revealed that the CC's systems that move—pumps and fans, for example—have failed or are about to. The static systems, including piping and ductwork, will be at the end of their expected service life by the end of the decade.

A two-year, \$35 million contract let in August funds the first phases of the maintenance and safety project. Initial work will focus on improving and replacing mechanical and electrical systems, upgrading or replacing fume hoods, and installing a sprinkler system, Williams points out.

—by Sara Byars

Development firm, government advisors bring expertise to project

Hiring a private-sector developer to oversee construction of a new Clinical Center—and figure out how to pay for it—was proposed by an NIH committee, the CC Renewal Steering Committee, last November. The committee advertised for interested developers in the *Wall Street Journal* and the *Commerce Business Daily* in April.

Developers responding were ranked according to satisfaction of past customers, relevant experience, and successful community relations. The NIH Source Selection Evaluation Board, in conjunction with General Services Administration (GSA) and specialty advisors, selected the firm Boston Properties, Inc., on Aug. 31.

Boston Properties is a privately held real estate development company with offices in Boston, New York, and Washington. The firm owns and manages more than 80 buildings containing some 12 million square feet of space. Their portfolio includes public and private sector office buildings, mixed-use urban projects, suburban office buildings, business and industrial parks, research and development facilities, luxury hotels, and residential properties.

The company's local federal projects include the U.S. International Trade Commission, the National Aeronautics and Space Administration, the Health Care Financing Administration, and the Thurgood Marshall Federal Judiciary Building. They've also completed several health care and laboratory projects for Beth Israel and Children's Hospital and biomedical research companies in Boston.

The project is being carried out under an umbrella of advice offered through interagency agreements. The GSA, experts in procurement, and the U.S. Postal Service, proficient in managing assets and devising business plans, are major players.

Avoiding the flu crucial for health-care workers

Like it or not, winter's just around the corner. And with the change of seasons comes snow, ski vacations, and get-togethers with friends. Yet winter may also bring an unwelcome guest: influenza.

Influenza is a major cause of pneumonia and death worldwide. It appears in our homes, schools, and workplaces. But immunizations can stop its spread.

Health-care workers have a special responsibility to help protect not only themselves and their families from influenza, but their patients as well. Because in hospitals, influenza is especially dangerous for patients who are immunosuppressed or who suffer from respiratory ailments.

Last year, six CC patients had influenza, and 74 health-care workers who cared for them were exposed to the virus. Unfortunately, only 21 percent of these workers had received their protective immunization for influenza. Result: eight unimmunized staffers were sick with flu symptoms. These staffers, in turn, could have exposed others to the virus. This scenario could have been avoided if all CC health-care workers had gotten their annual flu shot.

Every year, the virus that causes influenza changes slightly. This

Immunization schedule

Stop by the the OMS clinic, room 6C306, on Oct. 11, 7:30-11 a.m. or 1-3 p.m., (if your last name begins with W, X, Y, Z); Oct. 12, 7:30-11 a.m. or 1-3 p.m., (T, U, V); Oct. 17, 7:30-11 a.m. or 1-2 p.m., (R, S); Oct. 18, 7:30-11 a.m. or 1-3 p.m., (E, F); Oct. 24, 7:30-11 a.m. or 1-2 p.m., (C, D); Oct. 25, 7:30-11 a.m. or 1-3 p.m., (A, B); Oct. 31, 7:30-11 a.m. or 1-2 p.m., (N, O, P, Q); Nov. 1, 7:30-11 a.m. or 1-3 p.m., (L, M); Nov. 7, 7:30-11 a.m. or 1-2 p.m., (I, J, K); and Nov. 8, 7:30-11 a.m. or 1-3 p.m., (G, H). Open dates are Nov. 14, 7:30-11 a.m. or 1-2 p.m., and Nov. 15, 7:30-11 a.m. or 1-3 p.m.

Evening clinics will be held Oct. 11-Nov. 15 on Mondays and Wednesdays. Hours are 4:30-8 p.m. Immunizations will be available by appointment only after Nov. 17.

means that the immunization that prevented last year's influenza may not protect fully against this year's infection. So even if you got a flu shot before, don't count on it preventing those familiar fevers, aches, and pains this year.

"It's important to remember that it takes two weeks for the body to generate antibodies against the flu, so health-care workers should be immunized yearly and early. The best time is October or November—as long as they receive their shot before flu season starts in December. All health-care workers should have the influenza vaccine this year," says Dr. John I. Gallin, CC director.

"It's a myth that the flu shot can

cause the flu. People think that they'll get sick from the shot, but that's just not so. Usually, there is no discomfort from the shot," says Dr. Angela Swinson, assistant medical director, Occupational Medical Service (OMS). Every year, OMS offers free influenza immunizations to NIHers.

Immunizations will be available in the OMS clinic (clinic 6) in building 10 and many sites on and off campus.

OMS will provide immunizations on a schedule designed to make it easy and fast for health-care workers to receive their shots. Immunizations will be given Oct. 11-Nov. 17 at convenient times (see box above). After Nov. 17, immunizations will still be available by appointment.

Got the facts? Take the foil-the-flu quiz

True or False?

1. Deaths associated with influenza are in the top ten leading causes of death worldwide.
2. No CC patient has ever had the flu.
3. Getting the influenza vaccine is practically painless.
4. I won't get the flu from an influenza vaccine.
5. Last year's influenza vaccine protects against this year's virus.
6. If I miss my scheduled day for a free shot, I cannot get my immunization.
7. Even if they almost never get sick, all health-care workers should have an annual flu shot.

Answers: True; False; False; True; True; False; True.

Carter retires after 38-year CC career

Almost everyday since April 15, 1957, Audrey Carter has hitched a ride to the Clinical Center with her co-worker, housekeeping aide Clifford Thomas.

"I think he's been here 100 years," Carter teases. "I make him a cup of coffee every morning and give it to him in the car. He likes his coffee."

During those 38 years in the Housekeeping and Fabric Care Department, Carter worked her way up from aide to group leader to supervisor and finally to her present position, waste management chief.

"I guess you'd say I wore a lot of hats," she laughs.

And during that time she was raising 12 children—seven girls and five boys—who now range in age from 21-year-old twins to a daughter, 49. But that brood is small compared to her 29 grandchildren and 15 great-grandchildren.

The housekeeping department is an extended family affair for Carter—her sister, Jean Green, is assistant chief and their mother, Dorothy Carroll, worked in that same department from 1953 until her retirement six years ago.

Carter worked 18 years on 11 West. "This was my spot," she says of the area where she cleaned the rooms, supplied linens, mopped floors, and even met with the President of the United States.

"I shook hands with President Lyndon Johnson," Carter remembers. "He was a big man. When he took your hand, it disappeared. After I met him I told all my friends I would never wash that hand."

Carter also remembers when Hubert Humphrey was at the Clinical Center. "They made a special room for him to work in. And when people from Washington came in to see him, you got out of the way. They came in big groups."

Looking back over the years spent here, Carter remembers that when she first started cleaning rooms,



Audrey Carter has retired after 38 years in the Housekeeping and Fabric Care Department.

the housekeeping staff was not allowed to talk to the patients beyond a "good morning."

One job that makes Carter laugh now was mopping up water from the emergency showers found in the hallways. Kids have been known to pull on the red ring that hangs from a chain and then find themselves drenched with 50 gallons of water. "You know how kids are," she says with the smile of a woman who knows.

Now, when Carter works with young people new to the job she tells them, "Do it my way. Don't hit the baseboards when you strip the floors, or you'll be back washing the base boards. And don't worry about lunch. Get your work done and then you'll get your lunch."

"I used to clean in isolation

rooms, it didn't bother me. You have to mop the floor ahead of you and walk on the wet part and you have to wear a mask, boots, and a gown," Carter explains.

Audrey Carter is proud of the Clinical Center and her contribution to its quality. In fact, she was once a patient here herself. In 1990, nerve damage from a tumor on her pituitary gland caused Carter to go blind. As Carter explains it, "I was blind for a while and they made me see."

Surgery returned her eyesight and after a stay on the fifth floor to recuperate, she was back to work. "I'm doing real good now," she continues. "Anybody says anything bad about this place, send them to me and I'll tell them how good it is."

—by Laura Bradbard



Insider's view

Nearly 800 students and community members toured the Clinical Center last month as part of the NIH Open House. A cadre of volunteer CC guides led visitors on their behind-the-scenes rounds. Highlights included special presentations in the operating room observation area (left), the Clinical Pathology Department, and the VIC.

o c t o b e r

10 Medicine for the Public 7 p.m.

Masur Auditorium
AIDS: Can We Boost the Immune System?, Joseph Kovacs, M.D., CC

11 Grand Rounds noon-1 p.m.

Lipsett Amphitheater
Bench to Bedside, Sjogren's Syndrome: Current Status and New Possibilities, Philip C. Fox, D.D.S., and Ava J. Wu, D.D.S., NIDR

Wednesday Afternoon Lectures 2:30 p.m.

Masur Auditorium
Signalling Genes from the Cell Surface, James E. Darnell, Jr., M.D., The Rockefeller University. Hosted by the Cell Biology Interest Group; 3:30-4 p.m., reception; **4 p.m.**, *Control of Lymphocyte Development by Protein Phosphorylation*, Roger M. Perlmutter, M.D., Ph.D., University of Washington. Hosted by the Immunology Interest Group

17 Medicine for the Public 7 p.m.

Masur Auditorium
Melanoma and the Suntan Generation, Stephen Katz, M.D., NIAMS

18 Clinical Staff Conference noon-1:30 p.m.

Lipsett Amphitheater
Recent Advances in the Management of AIDS-Related CMV Retinitis, Henry Masur, M.D., CC, moderator

Wednesday Afternoon Lecture 3 p.m.

Masur Auditorium
Design of Proteins and Drugs, Peter S. Kim, Ph.D., Massachusetts Institute of Technology. The NIGMS Dewitt Stetten, Jr., Lecture

24 Medicine for the Public 7 p.m.

Masur Auditorium
Sickle Cell Anemia: New Treatments and the Search for a Cure, Griffin Rodgers, M.D., NIDDK

25 Grand Rounds noon-1 p.m.

Lipsett Amphitheater
Development of Gene Therapy for Chronic Granulomatous Disease, Harry L. Malech, M.D., NIAID; *Clinical Drug Resistance in Non-Hodgkin's Lymphomas*, Wyndham H. Wilson, M.D., Ph.D., NCI

25 Wednesday Afternoon Lecture 3 p.m.

Masur Auditorium
Imaging Protein-Nucleic Acid Complexes with the Scanning Force Microscope, Carlos J. Bustamante, Ph.D., University of Oregon. Hosted by the Structural Biology Interest Group

31 Medicine for the Public 7 p.m.

Masur Auditorium
Understanding Infertility and the Ovary, Lawrence Nelson, M.D., NICHD

In November . . .

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Wednesday Afternoon Lecture 3 p.m.

Masur Auditorium
DNA Replication Fidelity, Mismatch Repair, and Genome Stability, Thomas A. Kunkel, Ph.D., NIEHS. The NIH Director's G. Burroughs Mider Lecture